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plans—which never enrolled more than 3 percent of the population—basically ended with the second intifada.

Although the government health plan is still closely based on the system that was introduced by Israel, the MOH has made several important changes. Perhaps the most fundamental change was to allow voluntary enrollment by individuals and households and by employee groups that were not required to participate. At the same time, insurance premiums were reduced to promote enrollment.

The effects of such reductions on financial viability could have been positive if they had substantially increased enrollment by healthy people. However, allowing voluntary enrollment created the risk of adverse selection—in other words, that the people who chose to enroll were disproportionately sick. The risk of adverse selection was reinforced by the fact that people could enroll at almost any time, creating an incentive for healthy people to stay out of the system—and avoid paying insurance premiums—until they become sick or injured. As a particularly stark example, UNRWA pays to enroll people in the government insurance program when they are diagnosed with cancer; this is, in effect, an institutionalization of adverse selection.

Expansion of eligibility and reduction of premiums were intended to expand health insurance coverage and help reduce unmet need. In practice, however, the net effect of these changes was to increase the government system's liabilities more than it increased revenue, deepening the operating deficit that has existed since 1994 and threatening the survival of the system. Subsequent economic crises—and, of course, the decision after 2000 to waive premiums entirely for many people—have exacerbated the financial problems of the government insurance system.[24]

In contrast to the enrollment rules and premiums, the benefit structure of the government health plan has changed very little over time. Members face no cost sharing for outpatient office visits, but co-payments are required for diagnostic services such as laboratory tests and imaging. Many health insurance plans in other countries work in exactly the opposite fashion, the rationale being that patients have relatively strong control over the decision to see the doctor, but relatively weak control over the diagnostic services the doctor prescribes. The government plan also requires co-payments for prescription drugs but not for inpatient care with appropriate referral; both are features that have been widely adopted in foreign health insurance plans. Moreover, the "gatekeeping" aspect of the referral system for inpatient care is not always applied rigorously, and patients who seek such a referral are generally able to receive one.

The government health system does not include systematic utilization review for outpatient care, such as requiring primary care referral for specialty care. We recognize

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[24] We note that even waiving the health insurance premiums has not led to universal insurance coverage, one stated goal of the national health plans. Coverage is estimated to be around 80 percent at the time of this writing, apparently because not everyone who is eligible has actually enrolled. When premiums were required, health insurance coverage peaked at 55 percent of households, including families whose insurance coverage was sponsored by the government under the hardship program—also far short of universal coverage.

that the potential effect of primary care gatekeeping is likely to be muted, at least in the short run, by the current shortage of specialists in many clinical areas. Patients in the government health sector (and in UNRWA) have little ability to choose providers, except by opting to receive care in a different sector.

The government plan covers care only from government providers, unless patients are specifically referred to private or NGO providers, or to providers abroad, for care that cannot be provided in the government sector. The reliance on government services has both clinical and financial motivations. The former reflect concerns about inconsistent quality and lack of government oversight in the private and NGO sectors. The latter reflect a desire to avoid the open-ended liabilities that might arise from paying NGO and private providers on a fee-for-service basis, while government providers are salaried. In practice, however, the government sector has been unable to meet the demand for its services, particularly following the large increase in insurance enrollment since premiums were waived. At the same time, the MOH lacks the economic resources—and the statutory authority—to shift some of this excess demand to the private or NGO sectors. The result has been considerable overcrowding of government facilities and a perceived decline in quality of care—while simultaneously some private and NGO facilities are underutilized.

Several other factors affect care in the government sector. For instance, as is true in many developing areas, the government salary structure serves as an incentive for public providers to maintain private practices on the side, by choice or out of economic necessity. This dual role may distract public providers from the responsibilities of their government positions and create other conflicts of interest. The relatively centralized management structure of the public sector offers few positive incentives to facility administrators and individual clinicians to provide health care efficiently. For example, senior hospital staff are generally appointed by the MOH rather than by the hospital director. Hospital managers are not provided with specific budgets for operating their facilities, and accountability by hospital managers for the use of pharmaceuticals and other consumables in their facilities is often weak. At the same time, all health care sectors lack modern health information systems, particularly relating to hospital discharge data and other indicators of health system performance. This makes it very difficult to implement an efficient system of local accountability, since it inhibits planning and evaluation of facility performance.

Overall, the government health sector has operated at a deficit since its inception in 1994.Government liabilities have considerably exceeded the sum of health insurance premiums and general tax revenues allocated to the health sector. Communication between the MOH and the Ministry of Finance (which determines or at least administers budget allocations) is poor, and there have been periods of crisis (e.g., in 1997) when the Ministry of Finance did not allocate the expected budget to the MOH. The PA effectively doubled enrollment in the government health insurance system when it recently waived premiums, but these increased liabilities were not reflected in the budget

planning process. Indeed, it appears that the government did not explicitly account for the liabilities it incurred when it lowered insurance premiums in the mid-1990s to promote enrollment in the government program.

System-wide, a substantial part of the cost of health care services has been borne by patients in the form of out-of-pocket spending. However, there is a perception of considerable unmet need for health care in Palestine—even while all sectors of the health system (except perhaps the private sector) have received considerable external subsidies. The operating budget of the MOH has been directly supported by foreign donors and indirectly supported by the high volume of services provided in other sectors to patients who are formally entitled to receive the care in the government sector. Similarly, with the exception of patient cost sharing, the entire UNRWA sector is externally financed by design (UNRWA also subsidizes the government system, to the extent that it provides services that patients would otherwise be entitled to receive from the government system). Finally, most NGOs subsidize the care they provide with funding from local and foreign sources.[25]

Recommendation: The Palestinian Government Should Develop Viable and Sustainable Health Insurance and Health Care Financing Systems. Addressing these complex issues is difficult in any health care system. However, successful policies are likely to include some common features, as described below.

The Planning Target Should Be Universal Health Coverage. Most health systems that are regarded as "successful," in the sense intended by our mandate, have achieved universal—or close to universal—health insurance coverage. The previous national health plans have included the goal of universal health insurance coverage in Palestine. We think maintenance of this goal and good faith efforts to achieve it are important for social and political reasons—a view supported by all our interview participants.

Interview participants (and the policy literature) suggested a range of possible strategies, without any obvious consensus. Some participants thought that achieving this goal needs to be deferred for the foreseeable future and favored continuing the current government system and its provision for voluntary enrollment. Others favored mandatory and universal participation in a national insurance program but differed in how comprehensive the benefits of such a program should be. For instance, one option might be to provide a "core" benefit, available to everybody, that covers a basic set of services (e.g., public health, preventive care, and basic curative services). People could supplement this core benefit, if they chose, by purchasing more comprehensive private coverage. Opinions also differed on the appropriate role for government versus private insurance. As is always the case in insurance, the risk-pooling benefits of universal government coverage are likely to trade off against the restricted choice and potentially

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[25] We note that market-based health reform strategies often seek to promote competition, particularly on the basis of cost and quality. One implication of the significant level of subsidies in the Palestinian health system is that the competition across and within sectors of this system is not necessarily market based. In particular, UNRWA, NGOs, and international donors are not simply making "investments" in the business sense.

poor quality that arise in such a system. In our view, these issues need to be resolved locally.

Demand-Side Incentives for Efficient Health Care Use Should Be Improved. We assume that the government insurance program will be maintained in the future, in some form. However, its benefit structure should be updated to encourage both patients and providers to use care more efficiently. On the demand side, available evidence from developed and developing countries suggests that modest levels of patient cost sharing for many types of health care services help control health care costs without adversely affecting health outcomes (appropriate co-payment levels would be determined locally).Similarly, there is evidence that utilization review and care management techniques can help control costs and/or improve outcomes, particularly among patients with chronic medical conditions (such as diabetes, asthma, hypertension, and heart disease) that commonly involve acute complications and hospitalization. Updated cost-sharing and utilization review mechanisms should be based on international evidence and local economic circumstances.

Government policies currently provide universal entitlement to preventive health services without patient cost sharing. In general, the scope of preventive services is relatively comprehensive for children, particularly up to age three. However, there is considerable room to expand the scope of such services, for both children and—perhaps especially—adults. As we discuss further below, government strategies regarding nutritional status require updating and expansion, particularly for high-risk groups. (The MOH released a new national nutrition strategy in July 2003; it is too early to know what its effects will be.) With respect to the general adult population, available epidemiological evidence suggests high and increasing prevalence of chronic diseases—notably diabetes, hypertension, and heart disease—for which primary and secondary prevention efforts can be quite effective. Although these conditions are associated with considerable expenditure on tertiary care, health education and prevention efforts for these conditions are relatively underdeveloped. Increased prevention efforts in these and other areas have the potential to reduce total health care costs.

Supply-Side Incentives for Efficient Health Care Use Should Be Improved. The MOH (or the national health planning authority) should improve incentives for the efficient supply of health services, particularly in the government sector. These improvements should include better management practices for government health facilities—e.g., by implementing formal budgeting processes, holding facility managers accountable for clinical and financial performance, and providing local staff with greater authority and autonomy. Other possible steps include giving individual providers incentives to meet specific evidence-based performance benchmarks and minimizing conflicts of interest between government providers' public and private practices. We note that performance incentives do not necessarily have to be monetary; other possible incentives include peer recognition, training or research support, and additional vacation time.

Effective implementation of such strategies is likely to require improved information systems, which we discuss in greater detail under "Health Information Systems" below.

Coverage Rules for Tertiary Care Referrals Should Be Specific, Publicized, and Implemented Consistently. Tertiary care capabilities in Palestine are currently limited. Additional tertiary care capabilities, including development and operation, are expensive, and the cost to the MOH of referring patients for treatment abroad—whether to Israel, neighboring countries such as Jordan or Egypt, or to Europe—is also considerable. Given scarce resources, the MOH has worked to reduce the rate of such referrals by expanding local capacity and by making referral criteria more restrictive. In general, such efforts are likely to be beneficial for the health system overall. However, both strategies should be implemented systematically and transparently.

Strategies for expanding local capacity should reflect both the relative cost and the relative quality of treatment abroad. In particular, the Palestinian population is relatively small, and there are likely to be many conditions for which the national incidence rate will be below the minimum volume necessary to sustain a clinically successful treatment program. It may be both clinically and economically efficient to develop tertiary care "centers of excellence," focusing on high-impact conditions that are also relatively prevalent. In any case, development of tertiary care facilities should conform to the strategies and targets determined by the national health planning process.

Referrals for care abroad could also be more systematic and cost-effective. The MOH is likely to benefit from negotiating bilateral agreements with foreign countries or institutions regarding referral of Palestinian patients. The MOH has already negotiated some agreements with foreign institutions, but our understanding is that these agreements do not specify the rates that the MOH will be charged for care. Future agreements should include rate schedules for specific types of care.

Israel is one obvious place to refer Palestinian patients, for reasons of geography and of health system capacity and quality. Indeed, the MOH has referred many patients to Israeli institutions since 1994 and continues to do so. Several interview participants pointed out, however, that Israeli institutions charge the MOH the equivalent of "tourist" rates for Palestinian referrals; i.e., higher rates than these institutions charge for treating the members of Israeli health insurance plans. Although this may reflect economic realities, most notably the risk of nonpayment or incomplete payment, we recommend that the referral terms be renegotiated to be more favorable to Palestinian patients. In our view, this would benefit all parties.

Criteria for determining whether patients are referred outside the government health system, domestically or abroad, should be detailed, transparent, and applied consistently.

Policymakers Should Consider Covering Care in the Private and NGO Sectors. As described above, the government health insurance program does not generally cover services provided outside the government health sector. At the same time, many gov-

ernment facilities are already operating at the limits of their capacity, and they are certainly not adequate for meeting the needs of the entire population. The MOH will therefore need to expand the government health sector significantly, and/or expand the role of private and NGO providers under the government insurance program, as it works toward achieving the national goal of comprehensive universal health insurance coverage.

Private and NGO providers currently represent a substantial part of health system capacity (see Table 7.3). To the extent that these providers meet appropriate criteria regarding quality and costs, it is likely to be more efficient for the MOH to purchase care from them than to replace them. In particular, policymakers should avoid devoting scarce development resources to building redundant capacity—i.e., building or expanding government capacity in areas where private and NGO capacity is available and adequate. We recommend against having the government sector provide all care, because such a monopoly might weaken incentives for quality and efficiency.

Such expansion may be more feasible and appropriate in the context of improved national planning, policy development, and policy implementation, as discussed above; strengthened national licensing and certification standards (discussed further below under "Licensing and Certification of Health Professionals" and "Licensing and Accreditation of Health Care Facilities and Services"); transparency in financial accounting for all stakeholders; and cost-control mechanisms for care in the private/NGO sectors, such as standardized fee schedules for specific health services, primary care gatekeeping, and preauthorization requirements for care from nongovernment providers. Particularly in the context of such developments, the MOH could use inclusion in the government health benefit as an incentive to private and NGO providers to promote quality and efficiency.

Policymakers Should Develop Contingency Plans Regarding East Jerusalem. As we have described, Israel currently has responsibility for the health system in East Jerusalem. Residents of East Jerusalem are covered by the compulsory Israeli national health insurance program and are thus enrolled in one of the four Israeli "sick" funds that cover primary, secondary, and tertiary care. Health care providers and facilities in this system are governed by Israeli protocols.

This chapter would be incomplete without some consideration of the possibility that responsibility for the health system of East Jerusalem will shift to the government of a future independent Palestinian state. In particular, patterns of health and health care use and costs in East Jerusalem are currently closer to Israeli standards than to those in Palestine. On the one hand, without substantial outside subsidies, the Palestinian health system will certainly lack the resources to maintain current levels of provider reimbursement and overall spending for Palestinians in East Jerusalem. On the other hand, significant reductions in reimbursement levels and overall spending in East Jerusalem are likely to cause considerable harm to its health care infrastructure. The MOH and other relevant stakeholders (e.g., other ministries, health care provid-

ers in East Jerusalem, the Israeli Ministry of Health, and international donors) should consider specific strategies for incorporating the health system of East Jerusalem into the broader Palestinian health system.

Several interview participants raised the possibility that net contributions by Palestinian residents of East Jerusalem to the Israeli health insurance programs have been positive (i.e., contributions have exceeded the cost of health care use). This could arise, for instance, for groups that are younger than the population average. They argued that, if this were true, Palestinians who had historically been covered by Israeli insurance have an entitlement to continued participation in the Israeli system. The rationale is that national social insurance involves risk sharing between healthy and unhealthy people not just at a point in time, but over time as well (i.e., as people age, they use more health care for age-associated reasons). We did not evaluate this issue here.

The Palestinian Government Should Work with Other Stakeholders, Particularly International Donors, to Establish Stable and Adequate Health System Funding. Since 1994, local resources have not been sufficient to sustain the Palestinian health system at current levels, which in any case do not meet our mandate of a truly successful Palestinian health system. Some of the policy options described above have the potential to reduce costs and/or increase efficiency, and thus to promote financial viability. Nevertheless, we believe that achieving a successful Palestinian health system will require considerable outside resources for the foreseeable future. (We discuss levels of external support in the "Cost" section below.) Given the current and likely future role of the government sector, many of these resources will need to be directed to the government health system for the overall health system to function successfully.

However, as prior analyses of the Palestinian health system have emphasized, such an approach conflicts directly with the policies and priorities of many international donors, who strongly favor channeling resources through NGOs rather than through government entities, and who also favor making capital investments rather than supporting operating budgets. In recognition of the limitations of these strategies, in July 2003, the U.S. government authorized $20 million of direct support to the PA, the first such payment since the PA was established.[26] Additional direct cooperation between the Palestinian government and international donors is needed to facilitate successful future health system development and operation.

Effects of Restricted Domestic Mobility. Health insurance benefits should reflect patients' abilities to reach appropriate health care facilities. For instance, if patients cannot travel to distant government facilities, it may be necessary for the government health benefit to cover care in the NGO and private sectors on more than the current

[26] Of this total, $11 million were slated for specific infrastructure projects, including the repair of municipal water and sewage systems; road repair and reconstruction; repair of electrical distribution lines; and rehabilitation of municipal schools, clinics, courthouses, and other public buildings. Up to $9 million were intended to ensure the continued provision of electric, water, and sewage utility services.

exceptional basis. If mobility is restricted, however, even such expanded coverage will leave many people with inadequate access to care, particularly secondary and tertiary care in rural areas. We discuss the implications of restricted mobility on access to care and health infrastructure development further below under "Licensing and Accreditation of Health Care Facilities and Services."

Restricted domestic mobility would also significantly impair health system management. While it would necessarily increase the authority of local managers—something we recommend, in principle—it would inhibit national systems of oversight and accountability. On a related issue, restricted mobility would inhibit or prevent the collection of most types of health system data; we discuss this further below under "Health Information Systems."

More generally, restricted mobility is likely to limit the economic viability of a Palestinian state and correspondingly reduce the resources available for health system development. In principle, this could be offset by additional external resources. However, the availability of certain sources of funding, particularly private investment, is likely to be positively related to the economic viability of the state.

Effects of Restricted International Access. Health insurance policies regarding referrals for care abroad will obviously depend on whether and to where such referrals are possible.

On a related issue, if the Israeli labor market is open to Palestinian workers to any significant degree, we recommend that the Palestinian health planning authority (or the MOH in its absence), the Israeli Ministry of Health, and other relevant organizations develop coordinated policies regarding health insurance coverage and health care for Palestinians working in Israel.

Licensing and Certification of Health Professionals

Background. According to the second national health plan, there are approximately 2,000 physicians in Palestine. Since the only Palestinian medical school, at Al-Quds University, was established in 1994 and graduated its first class in 2001, essentially all practicing physicians in Palestine were trained elsewhere.[27] Although we know of no systematic inventory of where physicians practicing in Palestine were trained, it is clear that their training has varied widely and may be incomplete and out-of-date in many cases. For instance, many Soviet medical graduates who emigrated to Israel in the 1990s required additional training before qualifying for an Israeli medical license, suggesting that the many Palestinian graduates of Soviet medical schools might also require additional training to meet appropriate practice standards.

Historically, and today, Palestinian physicians must receive a license to practice. In both the West Bank and Gaza, candidates are required to pass examinations in order to be licensed, although procedures differ in these two areas. The West Bank's licensing protocols are modeled on those in Jordan, while Gaza's protocols are modeled on those

[27] Indeed, a number of Al-Quds medical graduates are currently receiving postgraduate training abroad.

in Egypt. However, these licensing criteria have not been consistently applied since the PA assumed responsibility for health care in 1994; as a result, some physicians received licenses without meeting the minimum criteria. Moreover, physicians and other health professionals are licensed for life; and they are not required to participate in continuing education to maintain their skills, nor to demonstrate continued proficiency as a condition of maintaining their medical license.

As a related issue, the institutions controlling subspecialty certification are weak or absent. Subspecialty certification is particularly problematic in Gaza, partly because Egyptian protocols regarding subspecialty training are relatively weak and partly because there have been few attempts to enforce existing standards. As a result, many physicians in Gaza represent themselves as subspecialists of various types without having completed adequate subspecialty training.

To our knowledge, no systematic and ongoing program of continuing medical education (CME) currently exists in Palestine; hence, even providers who would voluntarily participate in CME may have difficulty doing so. Although many training programs have been offered over the past decade, sponsored by many different organizations, they have typically been conducted once or twice, not on a systematic, ongoing basis to successive cohorts of providers. We also know of no standard processes for suspending or revoking a medical license in case of malpractice or professional misconduct, or for individual or class-action lawsuits in such cases.

In our interviews, several people proposed reasons why continuing education has not been established despite widespread consensus regarding its importance. These included the economic cost of participating in training and possible provider reluctance to let their patients know that they were receiving continuing education (e.g., because this might undermine patients' confidence).

With few exceptions, conditions are similar for nurses, pharmacists, and other health professionals: Initial training often needs to be improved; standards of licensing are weak and/or inconsistently enforced; and licenses are valid for life, without any requirement to participate in continuing education programs. As is the case with physicians, no institutionalized CME programs are available for nurses, pharmacists, and other health professionals on even a voluntary basis.

Information from published reports and our interview stakeholders supports the view that weak licensing requirements and the lack of CME combine to reduce quality of care, in some cases to unacceptably low levels. Moreover, as is true in many countries, Palestinian consumers have difficulty distinguishing high-quality providers from those who are unqualified—a difficulty compounded by the fact that existing licensing standards are inconsistently applied and that there are no systematic legal remedies for addressing acute problems.

Recommendation: Palestinian Standards for Licensing and Certifying All Types of Health Professionals Should Be Updated, Standardized, and Enforced. Effective licensing and certification programs are likely to share some common features, as described below.

Licensing and Certification Standards Should Be Valid Measures of Providers' Qualifications. The purpose of these standards is to ensure that all licensed providers have demonstrated the knowledge and skill to provide effective care. It obviously follows from this that licensing and certification standards should be valid measures of this knowledge and skill—both at the time of initial licensing and over time.

In principle, licensing exams and subspecialty certification criteria could be developed locally, based on international standards; or exams and criteria from elsewhere could be used directly (e.g., those from Jordan, which are already used in the West Bank). Given the limited size of the Palestinian health system, particularly in subspecialty fields, we recommend the latter.[28]

The Licensing and Certification Processes Should Be Implemented with Governmental Authority. In most health systems, licensing of physicians, nurses, pharmacists, and other health professionals is a government function. In Palestine, this function would most naturally be implemented by the MOH, but it could also be implemented by an independent organization or by another body with MOH oversight. Practices vary with regard to subspecialty certification, which is sometimes implemented by government and sometimes by an independent body under government authority. The appropriate model for Palestine should be determined locally.

In any case, licensing and certification standards should have the force of law—i.e., practicing without a license, or violating the terms of the license, should lead to civil and/or criminal sanctions. In addition, there should be established procedures for suspending or revoking licenses in the case of malpractice or misconduct.

Licensing and Certification Standards Should Apply to All Palestinian Providers. A single set of standards for the West Bank and Gaza and for all sectors of the health system would minimize the cost of these programs and maximize their benefit for consumers. Different standards add complexity and cost, impose unnecessary constraints on practice patterns if providers are licensed in one area or sector but not another, and confuse consumers.

Adequate Levels of Accredited Continuing Education Should Be a Condition of Maintaining the License/Certification. Effective licensing and certification standards require the availability of high-quality continuing education programs for all types of health professionals. These programs can be implemented by the MOH, NGOs, academic institutions, and others; and by domestic or international organizations.[29] However, all continuing education programs should be relevant to local conditions,

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[28] For instance, in the United States, subspecialty certification standards are developed by professional organizations for each subspecialty. In Palestine, however, the total number of subspecialists in many fields is too small to support an effective professional association for each field.

[29] In our interviews, various people reported that the organizations they represented were interested in developing and offering ongoing continuing medical education (CME) programs if the policies of the MOH and the relevant professional associations supported such training.

and they should be accredited. We discuss accreditation of training programs in detail below.

One factor that has inhibited the development of continuing medical education in Palestine is the economic burden CME imposes on providers. Such education could be required and uncompensated (in effect, a "cost of doing business"). Alternatively, providers could receive some compensation for participation, at least initially. The issue of compensation is presumably most acute for nonsalaried providers in the NGO and private sectors (government and UNRWA providers are generally salaried). This issue can best be resolved locally as part of the policymaking and implementation process.

Palestinian organizations, like those in other countries, have begun to use distance learning methods for training in health and other areas. Expanded use of such methods may facilitate the quality of continuing programs (e.g., by providing easier access to outside experts) and reduce their costs.

The Licensing and Certification Standards Should Include Explicit Policies Regarding Current—and Potentially Underqualified—Providers. Any time that new licensing standards are introduced, there is a question of how these standards will affect providers who were licensed using prior standards. Palestinian policymakers will need to determine whether and how existing providers should be required to meet whatever new licensing requirements are developed, whether they should be permitted to relicense on a voluntary basis, or whether they should be totally or partially exempted under a "grandfather clause." If existing providers are not required to comply with new standards, an alternative might be to develop conventions for naming the new credentials that could be used only by providers who meet the new standards.

Of these options, mandatory relicensing is likely to have the biggest effect on improving providers' knowledge, and consumers would need to recognize only a single licensing standard. However, it may be politically difficult to implement, involve relatively high training costs, and risk producing a shortage of providers (e.g., if many existing providers are unable or unwilling to qualify). Voluntary relicensing is likely to be easier to implement than a mandatory program; and the effects of such a program could be enhanced through consumer education about the new standards as a signal of provider quality, and/or through financial incentives from the MOH and other payers for relicensing. These issues should be resolved locally.

We note that many of the issues covered in this subsection were examined in greater detail in the *National Plan for Human Resource Development and Education in Health*. In general, we consider the goals and strategies outlined in that plan to remain relevant, and we refer readers to that report for additional details (Welfare Association, PA, and Ministry of Higher Education, 2001a–f).[30]

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[30] Dr. Afifi, one of the authors of this chapter, was overall project coordinator for the development of the *National Plan for Human Resource Development and Education in Health*.

Effects of Restricted Domestic Mobility. Limited population mobility would make it difficult to implement and enforce appropriate standards of licensing and certification. By inhibiting access for both faculty and students, it would also prevent the development and implementation of high-quality continuing education programs. These effects could be mitigated with additional financial resources to pay for operating local-area licensing, certification, and training. However, doing so would be costly, and it is unlikely that enough appropriate personnel would be available to implement these programs in all areas.

Effects of Restricted International Access. Licensing, certification, and continuing education activities are generally implemented domestically. However, restricted access could limit access by Palestinians to outside expertise and other resources, and thus inhibit the development and implementation of effective licensing and certification programs.

Licensing and Accreditation of Health Care Facilities and Services

Background. As with the process for licensing health professionals, the processes for licensing and accrediting health care facilities and services in Palestine should be strengthened. In general, the MOH has authority to review and approve new infrastructure development projects that are proposed for the health system and also to set standards for the operation of existing facilities and services. However, the MOH has exercised this authority in a very limited fashion. Current standards for licensing new projects and for reviewing existing facilities and programs are relatively weak, and they are inconsistently applied and enforced. Moreover, many practices continue to differ between the West Bank and Gaza.

As a result, new infrastructure projects do not always conform to the health development targets of the national health plans, or to any other coordinated national strategy, and low-quality facilities and services are allowed to operate, with little pressure to improve. For example, the European Hospital in Gaza was built despite the fact that it did not conform to national development strategies for inpatient care. Following its completion in 1997, it remained unused for more than three years because the MOH lacked the money and staff to operate it.

Many types of health services fail to meet consistent standards. For example, the law prohibiting pharmacists from dispensing medication to patients without a physician's prescription is rarely enforced. As another example, an increasing number of ambulance services operating in Palestine do not meet national (or other internationally accepted) standards for training, equipment, and overall quality. The Palestine Red Crescent Society (PRCS) has statutory authority to set standards for ambulance services. However, to be effective, these standards must be enforced by the government, which has generally not happened. PRCS has offered to provide equipment and supplies to ambulance services that voluntarily conform to the PRCS national standards, but this strategy has also not generally led to compliance. Similarly, the PRCS has de-

veloped practice guidelines for prehospital emergency care, while the MOH and other stakeholders are currently developing a parallel set of standards.

A somewhat related issue is the long-run integration and operation of the new infrastructure that has been developed in the context of the second intifada and the associated geographic closures. Although the local facilities developed since 2000 have helped to increase access to health care under conditions of closure, under conditions of peace many of these facilities may not be clinically effective or economically efficient because of low patient volume. If free travel is allowed in a future independent Palestinian state, policymakers will need to determine how (or whether) to integrate these new facilities into the national health system.

Recommendation: Palestinian Standards for Licensing and Accrediting Health Care Facilities and Services Should Be Updated, Standardized, and Enforced. Successful licensing and accreditation systems are likely to include some common features, as described below.

New Infrastructure Development Should Be Consistent with National Strategies and Targets. To promote efficient infrastructure development, many health systems require that new health system infrastructure projects be licensed. To be successful, such a process should have specific and transparent guidelines, such as requiring that new infrastructure projects be consistent with national development targets. Licensing requirements should be binding, regardless of funding source or sponsoring organization. As discussed above, this process would fall under the national health planning authority.

The Licensing and Certification Processes Should Be Implemented with Governmental Authority. As described under "Licensing and Certification of Health Professionals," this function can be carried out directly by the government, or by an independent body under government authority.

The Licenses/Accreditation of Facilities and Programs Should Be Reevaluated Periodically. As with health care providers, a policy of licensing facilities and programs "for life" is unlikely to maximize their effectiveness and efficiency. Facilities and programs should therefore be reevaluated periodically. Every effort should be made to strengthen those that do not meet current standards; in extreme cases, however, the authority should exist to close facilities and programs temporarily. Evaluation standards should be specific, transparent, and national; and they should be applied consistently to government, private, NGO, and UNRWA facilities and programs. Evaluation of government and UNRWA facilities by an independent body may help reduce conflict of interest.

Licensing and Accreditation Standards Should Be Valid Measures of Facility and Program Performance. The purpose of these standards is to ensure that all approved facilities and programs are providing care that is adequately effective and efficient. The standards should be valid measures of such performance.

The Government Health System and Other Payers Should Consider Explicit Incentives to Promote Quality. Many health systems are using, or are considering the

use of, financial incentives for health care facilities and programs that meet certain performance benchmarks. Such strategies may complement national licensing and accreditation standards, which are generally designed to ensure that institutions meet a minimum threshold of quality. We discuss these and other strategies further under "Health Care Quality Improvement" below.

Effects of Restricted Domestic Mobility. Limited population mobility would make it difficult to implement and enforce appropriate standards of licensing and accreditation. As discussed above, it would also require significantly different health infrastructure development strategies. In particular, it would require much greater emphasis on local delivery of clinical services. However, it would be difficult or impossible to provide all needed services in all areas, particularly secondary and tertiary services; moreover, the costs associated with developing many local facilities would be higher than that of a system based on fewer referral centers, and clinical quality is likely to be lower because of low patient volume.

Even assuming contiguous Palestinian territory in the West Bank and unrestricted access to East Jerusalem, the Palestinian health system is likely to face the challenge of a physically separate Gaza. If so, national health planners will need to determine whether it is more efficient to develop separate secondary and tertiary care capabilities in Gaza and the West Bank, versus investing in patient transport systems, international referral, or other strategies. In any case, we recommend that Palestinian health planners focus on developing national institutions with common standards and programs across all Palestinian territories.

Effects of Restricted International Access. Licensing and accreditation are generally implemented domestically. However, restricted international access for patients could affect strategies for infrastructure development. Given the size of the Palestinian population and the current capabilities of its health system, a strategy of domestic provision of all types of health care—including secondary and tertiary services—is unlikely to be economically or clinically efficient. Developing an infrastructure to deliver all types of care domestically (rather than referring some patients to foreign institutions for specialty care) is likely to result in higher costs and lower quality.

Human Resource Development

Background. Along with licensing and certification procedures, Palestinian educational programs need to be strengthened for all types of health professionals, including clinicians, pharmacists, health system administrators, public health workers, research and evaluation staff, and other relevant personnel. In many of these fields, the supply of appropriately trained professionals for the Palestinian health system is currently inadequate.

As noted above, there is one medical school in Palestine, which currently admits 40–50 new undergraduate students per year. The medical training program needs to be strengthened academically to meet international standards, with respect to both

basic science and clinical education. Although some internship posts are available in Palestinian institutions and more are being developed, postgraduate medical training in Palestine is currently very limited. Our interview participants noted that Palestinian medical graduates must go abroad to receive suitable subspecialty training in nearly all fields, including primary care subspecialties such as general internal medicine and family practice.

Overall, the number of physicians per capita generally conforms to targets set in the national health plans. However, the supply of highly qualified physicians is limited, particularly in many medical subspecialties. Specific areas of shortage mentioned by interview participants included psychology, psychiatry (particularly child psychiatry), neurology, and oncology (particularly radiation oncology), among others.

There are also two dental schools in Palestine, which were established more recently than the medical school. Training programs in other clinical areas, including nursing, pharmacy, midwifery, medical social work, and psychology, were established before the medical school. Together, the capacities of these programs come closer to meeting Palestinian national needs in their respective areas than does the medical school. However, there is a shortage of qualified professionals in many areas, including dentistry, nursing, midwifery, and psychosocial medicine, and there may be some degree of excess in pharmacy (or at least in the current number of private pharmacies).[31] Moreover, there was widespread consensus among those we interviewed that the quality of all types of training programs needed to be improved.

We were unable to assess the supply and quality of training of other health professionals, such as administrators, public health workers, and research and evaluation staff. However, it is likely that these areas also require strengthening. We emphasize the importance of focusing on training in each of these areas as part of any national human resource development program in health, particularly since these areas are often underemphasized relative to training programs for clinicians.

Finally, successful human resource development for the Palestinian health system is likely to require improved salary and working conditions, particularly in the government sector. Interview participants who were *not* themselves public employees consistently commented on the acute lack of resources in the public sector for recruiting and retaining highly qualified staff. Limited resources, along with weak civil service institutions and the perceived lack of a stable career path for public health sector employees, may be causing some qualified staff to move from the government sector to the private sector, to NGOs (particularly those with international funding, some of which offer salaries that vastly exceed the government pay scale), or abroad. A related problem suggested by our nongovernmental interview participants is that the organizational structure of the MOH, particularly the fragmentation of responsibility across departments, negatively affects employee performance and willingness to remain in the public sector.

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[31] Validating these perceptions was outside the scope of our analysis.

Recommendation: Palestinian Institutions Should Implement a Human Resource Development Strategy for the Health Professions to Ensure an Adequate Supply of Appropriately Trained Personnel for the Palestinian Health System. Successful strategies for achieving this goal are likely to include a number of features, as described below.

Existing Educational Institutions and Programs Should Be Accredited, Using Appropriate International Standards. Many countries have implemented minimum accreditation standards that medical, dental, and nursing schools and other educational institutions and programs must meet for their programs to be allowed to operate and for their graduates to be eligible for professional licensing and certification. These accreditation standards are implemented with government authority, but they can be defined and assessed by governmental or nongovernmental organizations.

In Palestine, the Ministry of Education and Higher Education has responsibility for authorizing the establishment of new educational programs and for monitoring existing programs. However, health education programs have not consistently been held to high standards of quality, neither at the time they were established nor over time. This has a number of implications, including the likelihood that graduates' initial training may be inadequate and that graduates may have limited access to further training—particularly abroad—because their initial degrees do not meet international standards.

Addressing shortcomings in educational quality will require development and application of appropriate accreditation standards. These standards should be based on appropriate international models. International standards are likely to be useful in their own right, and adherence to international standards facilitates educational exchange for undergraduate and graduate training.[32]

We expect that many educational programs will require strengthening to meet accreditation standards. Strengthening domestic training programs will require a national investment strategy to recruit and retain suitable faculty and to build, maintain, and operate the infrastructure necessary to support training. Programs that repeatedly fail to meet accreditation criteria should be closed until the standards are met.

Under conditions of peace, Israel is likely to be a valuable source of technical assistance, particularly regarding faculty development and research. Israeli institutions have played this role successfully in the past, and Israeli stakeholders consistently reported that their institutions would be willing to do so in the future, circumstances and resources permitting.

The MOH and the Ministry of Education and Higher Education have recently established a body that must authorize any new health-related academic or vocational training program in health. This approach is consistent with the recommendations outlined in this chapter. This body is relatively new, so there has not yet been an opportunity to evaluate its performance systematically.

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[32] In the absence of a suitable Palestinian accreditation program, the medical school at Al-Quds University has directly pursued accreditation by British and U.S. institutions. It is also currently pursuing accreditation by Israel; because of the location of the medical school, Israeli policy requires such accreditation.

Existing Health Education Programs Should Meet Minimum Accreditation Standards Before New Programs Are Established. New programs are likely to compete with existing programs for scarce human, physical, and financial resources, risking a reduction in overall quality and limited success in achieving the programs' objectives. Perhaps the most salient example of this is the medical school at Al-Quds University, which was opened in 1994 without its own teaching and laboratory facilities, equipment, library, complete curriculum, or adequate faculty and staff. Indeed, the school was established despite a recommendation by the Palestine Council on Higher Education (later the Ministry of Higher Education, and now the Ministry of Education and Higher Education), based on a feasibility study and internal workshop, that the opening of a Palestinian medical school be delayed. In our view, the medical school has had limited success in achieving the goals for which it was established, which included improvement of health care quality, CME, and clinical research in Palestine. Whether it will achieve the goal of producing competent physicians to serve the Palestinian population is still unknown because the first cohorts of graduates have not yet completed their training.

It may be beneficial to delay the establishment of new degree-granting educational programs in health until the corresponding existing programs have been evaluated by the Ministry of Education and Higher Education and after strategies are in place to strengthen these existing programs in accordance with appropriate accreditation standards. (By "corresponding" existing programs we mean programs that grant the same or similar degrees as a proposed new program or that are required for the proposed new program to function effectively; for instance, a doctoral program in pharmacy would require a successful undergraduate pharmacy program.) In the meantime, resources that might otherwise have been devoted to establishing new programs should be devoted to strengthening those that already exist and to developing the infrastructure needed to support future expansion of training capacity.

Policymakers Should Develop Incentives to Ensure an Appropriate Supply of Qualified Professionals. The Palestinian health system is likely to benefit from the creation of a student loan program for study in accredited health training programs. We understand that many qualified students currently face significant financial barriers to continuing their education and that Palestinian university students are disproportionately concentrated in the humanities (versus the sciences), in part because the educational fees are lower in those fields. To the extent that training in the health professions represents a good long-term investment—i.e., via more job opportunities and higher earning potential—both the students and Palestinian society would be better off if loans for such study were available.

Loan programs and other forms of support may be particularly valuable in fields where there is an acute shortage of qualified personnel (based on national targets or on operational conditions). The specific fields to be supported should be updated over time to ensure that those with present shortages do not become oversupplied. Under

free labor market conditions, labor shortages in particular fields may be self-correcting over time (e.g., because high demand and correspondingly high salaries induce people to enter those fields). However, the large Palestinian government sector may dampen some of these incentives. Also, many Palestinians face liquidity constraints in pursuing education—i.e., they are unable to borrow enough money to pursue relatively expensive training, even if that training would pay off over their professional career.

Palestinian training programs should also be adjusted (for instance, by shifting resources to other areas) in the event of an oversupply of qualified personnel in particular health fields. In addition, the government health system should use flexible compensation and contracting arrangements to reflect the relative demand for personnel with different types of training.

The Public Sector Should Be Able to Attract and Retain an Adequate Number of Appropriately Qualified Staff. Given the current and likely future role of the government as a provider of care in Palestine—and given its administrative, regulatory, and enforcement responsibilities—it is essential that the MOH and other relevant government institutions be able to attract and retain suitably qualified professionals. This may require increasing the salaries of health professionals in the government sector. It may also require changing the civil service law, which is currently relatively weak; ensuring a stable career path for government employees in the health sector; and developing merit-based hiring, retention, and promotion criteria that are consistently applied.

We recognize that any efforts to improve labor conditions in the MOH are likely to have implications for all ministries and public employees. Such changes may be most plausible in the context of broader civil service reforms.

Managers in All Health Sectors Should Receive Appropriate Training, Initially and on an Ongoing Basis. To function effectively, health system managers need to be able to use modern systems for planning, budgeting, procurement, accounting, data collection and analysis, and other key functions. These skills must be continuously maintained and updated. Effective training programs in these areas should be established and strengthened.

Policymakers or Local Institutions Should Develop Cooperative Agreements with Foreign Institutions Regarding Training and Academic Exchange. For a health care system and population the size of Palestine's, any efficient human resource development strategy will include having some people train abroad, rather than attempting to develop all necessary training capacity domestically. In this context, the Palestinian health system is likely to benefit from the development of bilateral agreements with foreign countries and/or institutions to designate training slots for suitably qualified Palestinian students and to enable periodic exchange of faculty.

With respect to training abroad, appropriate institutions should be developed to increase the likelihood that Palestinian students trained abroad will return to work in Palestine, at least for some period of time. There are various international models for

this, many of which are already being used by Palestinian organizations that help sponsor foreign training.

Under conditions of peace, training in Israel is likely to be a very cost-effective option for Palestinians, and the exchange may itself contribute to the peace process. In the past, many Palestinian health professionals have received such training; indeed, some Palestinians are currently training in Israeli institutions. Palestinians training in Israel may be able to live at home, or at least to travel home frequently and cheaply. In addition, Palestinians trained in Israel (rather than in other countries) may be more likely to return to Palestine when their training is completed.

Basic Science Education Should Be Improved. Chapter Eight provides information about primary and secondary education in Palestine. One finding described in Chapter Eight is especially salient here: the need to strengthen science education at all levels of the Palestinian education system, including primary and secondary schools. This would help ensure that future cohorts of Palestinian graduates have the qualifications to pursue health-related training if they choose. Strengthening public education programs is particularly important for poor students, whose opportunities are otherwise especially limited.

Effects of Restricted Domestic Mobility. For human resource development, the problems associated with restricted mobility are analogous to those for the development of health care facilities, services, and programs. Specifically, implementation and enforcement of appropriate licensing and accreditation standards are more difficult; and it is more difficult and costly to develop high-quality education programs if the mobility of students and faculty is restricted.

Effects of Restricted International Access. Licensing and accreditation are generally implemented domestically. However, restricted international access for students and health professionals is likely to hinder strategies for human resource development. It is unlikely that the medical, nursing, public health, and other manpower needs of the new state can all be met domestically at appropriate levels of quality. Meeting these needs is likely to require access to educational institutions in Israel, Jordan, and other countries for Palestinian students and health professionals who seek advanced training (as well as access to Palestine by foreign health professionals who might provide training in Palestinian institutions).

Prior to 2000, for instance, there was regular cooperation between Israeli and Palestinian institutions regarding training of health professionals. Nearly all official cooperation ended following the outbreak of the second intifada, although some activities continue on a personal level. Israeli interview participants told us that their institutions would welcome the resumption and indeed expansion of such cooperation with their Palestinian counterparts, circumstances and resources permitting.

Over time, it is also possible to imagine flows of students into Palestine and flows of Palestinian faculty to foreign institutions. Indeed, the latter, and to some degree the former, already takes place.

Health Care Quality Improvement

Background. Although formal assessment of the quality of health care in Palestine was outside the scope of this analysis, available evidence suggests that patient satisfaction with the Palestinian health care system is low. Patients generally regard health care services in Palestine as inferior, and those who can afford to do so seek care in Jordan, Israel, and elsewhere. Patient satisfaction with private and NGO services is higher than with the government sector, particularly in the last several years when the PA's waiving of government health insurance premiums led to a doubling of enrollment without a corresponding increase in capacity. In our experience, opinions among providers and other health system leaders mirror those of patients. Our interview participants consistently emphasized the need to improve health care quality with respect to primary, secondary, and tertiary care and in all sectors of the health system.

Before and after 1994, many health care quality improvement (QI) projects have been undertaken in Palestine. Some projects were relatively independent, implemented by one organization or facility and often the result of the personal initiative of individual providers. Others were part of systematic QI efforts. These efforts have improved care in specific clinical areas, in specific institutions, and in the health system overall. Indeed, Palestine was one of the first developing areas where modern QI practices were shown to be effective.

Systematic efforts by Palestinian authorities predate the creation of the MOH, beginning with the establishment of the Central Unit for Quality of Health Care within the Palestine Council of Health in 1994. This unit developed the *Strategic Plan for Quality of Health Care in Palestine* and the *Operational Plan for Quality of Health Care in Palestine,* the overall goals of which were to introduce and institutionalize the use of modern QI methods in the government health sector and in the Palestinian health system generally.

When the Central Unit for Quality of Health Care was discontinued in June 1995, its responsibilities were assumed and expanded by the Quality Improvement Project (QIP) within the MOH. The QIP operated dozens of successful QI projects in several demonstration sites and worked to expand the number of facilities in which it operated. It also provided formal training in QI methods to several hundred health professionals. By the late 1990s, however, the QIP had ceased to function effectively because of lack of institutional support within the MOH and travel restrictions within Palestine. The World Bank's current health-sector development projects in the West Bank and Gaza include QI components.

Although QI projects continue throughout the health system, they are no longer part of a coordinated national process. In general, QI interventions such as clinical practice guidelines or clinical pathways, provider reminder systems, or quality-based financial incentives are not widely used in the Palestinian health system; nor are institutional processes such as continuous QI or total quality management. However, some efforts are currently under way to increase use of evidence-based protocols and

guidelines in Palestine, particularly regarding nutrition, diabetes, and maternal and child care. This work has been funded by international donors and is supported by the MOH.

Quality improvement depends on reliable evaluation. A number of organizations within the Palestinian health system have capabilities in program and policy evaluation, including the MOH; Al-Quds and Birzeit Universities and other academic institutions; the Health Development, Information and Policy Institute (HDIP) and other NGOs; and others.[33] However, these existing capacities are weak in a number of important ways. For instance, the number of professional positions available to trained health researchers is relatively limited, so there is insufficient capacity to address all relevant issues. In addition, as is true in many other settings throughout the world, new health-related policies and demonstration programs are often implemented without an explicit evaluation component, and the results of many initiatives are not systematically documented or published.

Recommendation: A National Strategy on Health Care Quality Improvement Should Be Developed and Implemented, with Systematic Evaluation of Quality Improvement Projects and Dissemination of Those That Succeed.

Every health care system faces challenges in institutionalizing health care QI processes. However, successful strategies typically include some common features, as described below.

Quality Improvement Efforts Should Be Coordinated. National QI efforts should be coordinated to enhance their efficiency and to facilitate evaluation. In addition, priorities for QI should be consistent with national health planning targets. The national strategic plan for QI should be updated.

Facilities and Programs Should Adopt Systematic, Modern Quality Improvement Processes. In many settings, one key component of QI efforts is adoption of an institutional QI process, e.g., one that uses the principles of total quality management. An institutional process helps create a framework of responsibility within the facility or program for choosing and implementing QI projects and makes such activities part of an organization's core functions.

Quality Improvement Projects Should Be Evidence Based. There is a considerable and expanding literature regarding the efficacy, effectiveness, and cost-effectiveness of various QI strategies in health care. Although findings in other geographic areas or practice settings may not always apply to Palestine, this evidence base is likely to provide a valuable frame of reference for local QI efforts, particularly if interventions are carefully adapted to local circumstances.

Quality Improvement Projects Should Be Evaluated, and the Results Should Be Publicized. While some QI projects in Palestine have been formally evaluated, many have not. When programs are evaluated, the results are often not widely disseminated

[33] HDIP maintains an annotated bibliography of journal articles and other reports on health and health care in Palestine (see Barghouthi, Fragiacomo, and Qutteina, 1999; and Barghouthi, Shubita, and Fragiacomo, 2000).

or publicly accessible. Systematic evaluation of QI interventions would help develop an evidence base of best practices in Palestine, which would help guide future health system planning and development. In addition, such evidence would also serve as a useful reference for QI efforts in other developing areas.

Successful Quality Improvement Projects Should Be Supported and Disseminated. In many settings, even successful demonstration projects are not sustained in place after the demonstration period, nor are they widely disseminated. Patients, providers, and other health system stakeholders are likely to benefit if the QI process in Palestine includes explicit strategies for sustaining and spreading QI projects that are found to be cost-beneficial or relatively cost-effective from a societal perspective.

Effects of Restricted Domestic Mobility. Like health system planning and policy development, the ability to carry out and evaluate QI activities would be significantly inhibited under conditions of restricted mobility.

Effects of Restricted International Access. QI activities are generally implemented domestically. However, the development of QI programs would be inhibited if staff responsible for QI activities were unable to travel internationally for training and professional collaboration.

Policies on Prescription Drugs and Medical Devices

Background. Following several years of development, the MOH distributed the first national drug list in 2003. Development of the list was informed by several sources, including the essential drug lists developed by the WHO. The new list is likely to be of considerable value to the Palestinian health system, particularly the government sector, by helping to define its pharmaceutical policy in a public and systematic way. However, the national drug list was distributed without corresponding training for clinicians and pharmacists in how to use the list. In addition, there is currently no systematic process in place for updating the national drug list, although there are several reasons to expect that such updating will be beneficial. Most obviously, new and more effective drugs are frequently introduced. In addition, there is a constant stream of drugs coming off patent. Such drugs should be evaluated for possible inclusion in the formulary. One example is the antidepressant fluoxetine (brand name Prozac), which was on patent and not on the national drug list when the list was originally developed. Although fluoxetine has subsequently come off patent, it remains off the list.

In addition, both the content of the national drug list and the amount of each drug that is purchased and distributed by the MOH were largely based on historical prescribing and consumption patterns in Palestine, with relatively little explicit consideration of scientific evidence on effectiveness, cost-effectiveness, or patterns of microbial resistance. As a result, if past prescribing and consumption patterns were clinically or economically inefficient, the current national drug list—and MOH purchasing policies—are likely to reflect these inefficiencies.

Distribution of pharmaceuticals in the government sector is currently uneven, with excess supply of many drugs in some places (particularly urban centers) and shortages elsewhere. The MOH and the World Bank are currently developing improved pharmaceutical data systems, focusing on inventories and expiration dates. Such systems are likely to be beneficial, particularly if they are integrated with data on geographic patterns of morbidity and patterns of pharmaceutical prescribing and use. However, such data systems do not currently exist.

Although there is a considerable domestic pharmaceutical industry, there has been little coordination between the MOH and pharmaceutical suppliers regarding the domestic supply of drugs on the national drug list—even regarding drugs with a short shelf life and those that are required for treatment of life-threatening conditions. However, a promising recent development is the coordination between the MOH and the United States Agency for International Development (USAID) to develop a program of local procurement of some of the products on the national drug list, with the explicit intent of building strategic reserves for particular medicines.

The uncertain supply of necessary drugs from domestic or foreign sources has created problems for some patients when importation and/or local distribution of pharmaceuticals has been disrupted, as has occasionally occurred since 1994 and particularly since the outbreak of the second intifada.

In 2002, some international donations of pharmaceuticals to the MOH included products that were not on the national drug list. However, the MOH rejected some donations for clinical and policy reasons. International donations also apparently included some products for which there were actually domestic suppliers, effectively undermining Palestinian producers. To our knowledge, the MOH does not have a formal policy for how to handle such donations.

Although responsibility for the Palestinian health system was transferred to the PA in 1994, the PA and MOH do not have complete authority over pharmaceuticals and other medical products. In particular, all such products imported into Palestine must be registered in Israel, using Israeli standards. In our view, this policy results in both potential costs and benefits for Palestine. On the one hand, this policy is likely to raise the cost of pharmaceuticals in Palestine by limiting potential foreign suppliers to those who have incurred the cost of registering in Israel. On the other hand, it may help ensure the quality of imported drugs. In addition to possible clinical benefits, the local pharmaceutical industry might benefit by closing the Palestinian market to low-quality—and very low-priced—competition.

In our interviews, Israeli stakeholders expressed the expectation that Israeli restrictions on Palestinian imports would be eliminated with the establishment of an independent Palestinian state. The MOH currently has a process for licensing pharmaceuticals and other medical products that are locally produced, but it is not as comprehensive as the Israeli process. In any case, the capacities of this process would need to

be expanded significantly if responsibility over imported products were also transferred to the PA.

Recommendation: Policymakers Should Implement National Strategies on the Licensing, Supply, and Distribution of Pharmaceuticals and Medical Devices to Ensure a Stable and Adequate Supply of Safe and Cost-Effective Products. Successful strategies in this area are likely to include some common features, as described below.

There Should Be a Systematic Process in Place for Updating the National Drug List. To remain clinically relevant and cost-effective, drug formularies need to be updated periodically to reflect current evidence on clinical efficacy and cost-effectiveness of new and existing drugs, and changes in the supply and cost of particular drugs. Since the national drug list is binding only for the government sector in Palestine, it may be most appropriate for the updating process to be led by the MOH. We recognize that effective implementation of this process is likely to require improved health information systems, particularly regarding microbial resistance (discussed further in the following subsection).

Products on the National Drug List Should Be Consistently Available Throughout the Government Health System. Consumers and providers are likely to regard the health system as deficient if the drugs to which people are formally entitled as part of their health insurance benefit are not consistently available. A reliable supply will require efficient distribution methods, which in turn will require improved health information systems.

Training for Pharmacists and for Clinicians Regarding Pharmaceuticals Should Be Strengthened. Our interview participants mentioned a number of quality issues, including prescribing without appropriate clinical indications, dispensing without a prescription, dispensing drugs that are past their expiration date, and prescribing and dispensing without adequate instructions for patients. We have already discussed recommendations for improving licensing and continuing education for clinicians, pharmacists, and other health care professionals. Here, we emphasize that initial and continuing training programs regarding pharmaceuticals should focus particularly on the content of the national drug list to ensure that clinicians can prescribe and pharmacists can dispense all these medications appropriately—a level of skill that is not currently universal.

Policymakers Should Review and, If Necessary, Update the National Prescribing Law. The national health plans and many of our interview participants referred to the need for an updated national prescribing law. One specific provision called for in the national health plans is mandatory generic substitution. Although such provisions have been beneficial elsewhere, these and other details should be resolved locally.

It is apparently common practice for pharmacists to dispense prescription medications to patients without a physician's prescription. This is officially prohibited, and this prohibition should be enforced consistently. At the same time, some interview participants suggested that it might be cost-effective for pharmacists to have discretion

in recommending specific medications, conditional on receiving diagnosis information and recommending that a patient receive prescriptions from a physician. Such a policy might be beneficial, particularly given the current lack of uniform training and licensing standards among physicians and pharmacists in Palestine.

The National Programs for Licensing Pharmaceuticals, Medical Devices, and Medical Consumables Should Be Strengthened. Every health system should have specific procedures for licensing drugs and other medical products to determine which products may be sold and to ensure that they are safe and effective. As we have described, the Palestinian health system currently relies on Israel to perform much of this function, as part of the agreements in the Oslo process. It may be efficient for the Palestinian health system to incorporate the licensing determinations of Israel or other third parties into its own policies. If so, however, this decision should be made explicitly by local policymakers. Even then, new and expanded responsibilities are likely to fall on the Palestinian health system, and its capabilities in this area will need to be strengthened and expanded.

Effects of Restricted Domestic Mobility. Efficient distribution of pharmaceuticals would be significantly inhibited under conditions of restricted mobility, as has been the case during the second intifada. As discussed above, licensing and education activities would also be inhibited.

Effects of Restricted International Access. Restrictions on international trade would inhibit efficient and clinically appropriate pharmaceutical policies by restricting access to imported pharmaceuticals and to the raw materials needed for domestic pharmaceutical production, and by inhibiting Palestinian exports. Licensing of pharmaceuticals and medical devices would mostly be implemented locally. However, those programs would be inhibited if staff responsible for them were unable to travel internationally for training and professional collaboration.

Health Information Systems

Background. For this analysis, we define "health information systems" relatively widely to include all types of data that are directly relevant to health system planning, operation, and evaluation. These data encompass vital statistics; epidemiological data, including but not limited to nutritional status, vaccine coverage, microbial resistance, behavioral risk factors, incidence of infectious disease, incidence and prevalence of chronic illness, and disease registries; hospital cost and discharge data; data on cost and use of ambulatory care; inventory and consumption data for pharmaceuticals and other medical products; health insurance registry; tracking systems for international referrals; and medical records.

Many of these types of data are currently collected in some fashion in the Palestinian health system. For instance, vital statistics are maintained by the Palestinian Central Bureau of Statistics, which shares these and other data within the government and with outside parties. Many types of epidemiological monitoring have been conducted by

the Palestinian Central Bureau of Statistics and the MOH, including population- and clinic-based surveys of nutritional status and vaccine coverage, tracking of infectious disease, and data on the incidence and prevalence of noncommunicable and chronic diseases. Anthropometric status has been included in pediatric medical records in the government health system since the 1980s. Some data are available on use of inpatient and outpatient care, particularly within the government health system.

These data have supported previous national planning efforts, policy development, research, and evaluation. However, the success of future health system development efforts will require significant strengthening of existing systems, the introduction of new data capabilities, and more systematic use of data in informing health system policies and operation.

Perhaps most important, existing data systems have not been developed in an integrated, coordinated fashion. Many types of data that are essential for effective health system planning and operation are not consistently available, including national health accounts that cover all health sectors, comprehensive chronic disease registries, and data on pharmaceutical prescribing and use. Even vital statistics data, which are relatively well developed, have important limitations. For instance, births are recorded by the father's name and are not easily linked to the records of the mother. A related issue is that many types of data are collected in some parts of the health system but not in others and/or are collected in different—and incompatible—formats in different locations. Also, many types of data are recorded on paper rather than electronically.

Some efforts to strengthen particular information systems are currently under way. For instance, Birzeit University and the MOH have developed and are implementing updated pediatric medical records, which improve on previous charts by including screening tools for various developmental conditions. Ongoing, population-based nutritional monitoring is being conducted or supported by various organizations, including Birzeit University, Al-Quds University, Johns Hopkins University, CARE, Maram/USAID, the United Nations Children's Fund, the Palestinian Central Bureau of Statistics, and the Food and Agriculture Organization of the United Nations. The World Bank is currently sponsoring a major project with the MOH to strengthen various health information systems, including national registries for health insurance and international referrals; clinical information (on a pilot basis); and a central repository for health data, which will track data on vaccinations, pharmaceutical inventories, incidence of reportable infectious disease, and—in a subsequent phase—hospital discharge data based on the discharge system of the European Hospital in Gaza.

Since its creation in 2001, the Health Inforum has served as an information clearinghouse for the Palestinian health sector.[34] Among other things, Health Inforum maintains a database of health development projects in Palestine. The materials available through Health Inforum were invaluable for our analyses.

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[34] See http://www.healthinforum.net/.

These various efforts should be continued and supported—but these efforts alone are unlikely to meet the information needs of the Palestinian health system.

Recommendation: Palestinian Policymakers Should Develop Comprehensive, Modern, and Integrated Health Information Systems. Successful health information systems are likely to include a number of common features, as described below.

Data Should Be Collected on Incidence and Prevalence of Noncommunicable Diseases and on Behavioral Risk Factors. Currently, available data suggest that incidence and prevalence of noncommunicable diseases are high and rising rapidly, including diabetes, hypertension, heart disease, and cancer. However, data on these conditions are incomplete as a result of considerable undiagnosed morbidity and a lack of comprehensive population-based screening or surveys in these areas. Also, to our knowledge there is currently no national cancer/tumor registry or registries for other relevant diseases (including for inheritable genetic conditions, some of which are relatively prevalent in Palestine). Accurate data in these areas are essential for effective health system planning and operation.

The Palestinian health system is also likely to benefit from a surveillance system of behavioral risk factors, including cigarette smoking, diet, and physical activity. There was a consensus among interview participants that health promotion and disease prevention efforts need to be strengthened. For instance, several interview participants mentioned that levels of obesity have apparently been increasing among Palestinians, even during periods of economic crisis; another pointed out that the MOH incurs substantial costs for treating diabetes but currently spends very little on diabetes education. Comprehensive surveillance of behavioral risk factors would help to target and implement interventions.

Data Should Be Collected on Nutritional Status, Food Availability, and Food Security. As we have already noted, nutritional status has been and continues to be a key area of concern in Palestine. A number of new data collection initiatives have been implemented in the area of nutritional status, food availability, and food security, including ongoing monitoring reported on a biweekly basis in the Inforum newsletter. Effective monitoring of these issues should be institutionalized. Such data are likely to facilitate health planning and program evaluation.

Health Manpower Registries Should Be Established. Policies to strengthen licensing, certification, and continuing education of health professionals are likely to require national registry systems for all types of health professionals. These systems could track the licensing and certification status of all health professionals eligible to work in Palestine across all sectors of the health system. They could also track participation in continuing medical education.

National Health Accounts Data Should Be Strengthened. The MOH, the Palestinian Central Bureau of Statistics, Health Inforum, and other sources have worked to create comprehensive and consistent accounts of health system revenue and spending. However, available data need to be improved, particularly regarding international do-